What is claimed is:

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1. A method of electronic watermarking comprising:
sampling input signals using an uneven sampling rate.

2. The method according to claim 1, wherein the sampling comprises sampling at a rate such that an average sampling frequency is greater than or equal to twice the highest frequency in the input signals.

3. The method according to claim 1, wherein the sampling comprises sampling using a pseudo-random sampling rate.

4. The method according to claim 1, wherein the sampling rate has an unevenness which is pseudo-random and the unevenness is less than about thirty per cent of the corresponding sampling period.

5. The method according to claim 1, wherein the input signals are analog input signals, the method further comprising:
outputting unevenly sampled digital signals.

6. A method of authentication of candidate data comprising:
sampling original signals using an uneven sampling rate to produce unevenly sampled original signal data; and
comparing the unevenly sampled original signal data with the candidate data for a degree of match.

7. The method according to claim 6, further comprising:
normalizing the candidate data prior to the comparing; and
normalizing the unevenly sampled original signal data prior to the comparing.

8. The method according to claim 7, wherein the comparing comprises calculating a mean square difference between the normalized candidate data and the normalized unevenly sampled original signal data.

9. The method according to claim 8, further comprising comparing the calculated mean square difference to a threshold value, wherein if the calculated mean square difference is greater than the threshold value, the candidate data is determined to be inauthentic.

10. A method of detecting if a suspect signal has been sampled using an uneven sampling rate, wherein the signal includes at least one monotonic sine wave, comprising:

performing a frequency analysis of the suspect signal; and

detecting the presence of a phantom frequency indicating that the monotonic sine wave was sampled using an uneven sampling rate.

11. An apparatus for electronic watermarking, comprising:

input means for receiving input signals; and

sampling means for sampling the input signals using an uneven sampling rate.

12. The apparatus according to claim 11, wherein the sampling means comprises:

an analog-to-digital converter; and

control means for controlling the analog-to-digital converter to have an uneven sampling rate.

13. The apparatus according to claim 12, wherein the control means comprises a pseudo-random number generator.

14. The apparatus according to claim 12, wherein the control means controls the analog-to-digital converter to sample the input signals at a rate such that an average sampling frequency is greater than or equal to twice the highest frequency in the input signals.

15. The apparatus according to claim 14, wherein the sampling rate has an unevenness which is pseudo-random and the unevenness is less than about thirty per cent of the corresponding sampling period.

16. An apparatus for authentication of candidate data comprising:

sampling means for sampling original signals using an uneven sampling rate to produce unevenly sampled original signal data; and

comparing means for comparing the unevenly sampled original signal data with the candidate data for a degree of match.

17. The apparatus according to claim 16, further comprising:

first normalizing means for normalizing the candidate data and providing normalized candidate data to the comparing means; and

second normalizing means for normalizing the unevenly sampled original signal data and providing normalized unevenly sampled original signal data to the comparing means.

18. The apparatus according to claim 17, wherein the comparing means comprises mean square difference calculating means for calculating a mean square difference between the normalized candidate data and the normalized unevenly sampled original signal data

19. The apparatus according to claim 18, wherein the comparing means further comprises threshold means for comparing the calculated mean square difference to a threshold value, wherein if the calculated

mean square difference is greater than the threshold value, the candidate data is determined to be inauthentic

20. A method for generating an unevenly sampled signal comprising:

sampling a waveform to produce evenly spaced samples; and

adding to the even spaced samples an uneven sampling pattern.

21. The method according to claim 20, further comprising reusing the uneven sampling pattern so that it repeats after the last value.

22. A method of producing an evenly sampled sequence from an unevenly sampled sequence, comprising:

interpolating the unevenly sampled sequence by resampling at a rate higher than a sampling rate used to produce the unevenly sampled sequence, thereby producing a resampled sequence; and

decimating the resampled sequence at a even sampling rate thereby producing an evenly sampled sequence.

23. A method of detecting whether a suspect signal is an original signal which has been sampled unevenly, comprising:

providing an evenly sampled original signal;

comparing the evenly sampled original signal to the suspect signal by determining an absolute value of a difference between the amplitudes of the evenly sampled original signal and the suspect signal for a given sample index.

24. A data processing system comprising:

means for implementing a data watermarking processing; and

means for implementing a data watermark authentication processing.

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